of treating minor bleeding adverse events related to VTEp was estimated as USD$2679 and major bleeding was USD$5564. Similar estimations were found for knee replacement events. **CONCLUSIONS:** The occurrence of VTE events related to orthopedic surgery can significantly impact the costs of surgery, particularly given that in Argentina the cost of hip replacement was estimated as USD $1959 and the cost of knee replacement as USD $1193. One must therefore consider treatments given for VTE prevention, as these therapies not only impact survival and quality of life but can also substantially impact the efficient use of health care resources.

PCV45

EVALUATION OF HEALTH CARE COST OF DIABETES IN SOUTH INDIAN COMMUNITY SETUP

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OBJECTIVES: To evaluate the healthcare cost for the management of diabetes along with other co-morbidities condition. **METHODS:** A cross-sectional study was conducted in the Community setup of Warangal, India for a period of three months. Only the educated Diabetic patients with other comorbidities were enrolled in the study. The data collected were cost of medications, lab tests, consultation fee, transportation cost. The average total healthcare cost was calculated based on the previous two months expenses of each patient. **RESULTS:** A total of 100 patients were evaluated in the study period. Out of 100 patients, majorities were in the age group of 41-61 yrs 66 (66%) and also found to be higher in men 63 (63%) than in women 37 (37%). Most of the patients were diabetes with hypertension, dyslipidemia. The average cost of medications per patient Rs. 1540 (72.81%), the average laboratory cost per patient Rs. 350 (16.55%), the average doctors consultation fee per patient Rs.175 (8.27%), the average transportation charges per patient Rs.50 (2.36%). The most common drugs prescribed in the study were Metformin, Glibenclamide, Gliclazide, Insulin, Ramipril, Amlodipine, Telmisartan, Metoprolol, Hydrochlorothiazide, Furosemide, Atorvastatin and Aspirin. The most common laboratory test includes FBS/PPBS/RBS/HbA1C, lipid profiles, urine analysis, Hb, Electrolytes and Sr.Creatinine. The average total healthcare cost for two months was found to be Rs.2115 per patient. **CONCLUSIONS:** In summary, this is the first Indian healthcare cost study conducted in the community setup. Diabetes imposes an enormous economic burden on the healthcare system worldwide. This burden will continue to increase in the next two decades. More prevention efforts and resources are required to reduce this burden and to provide basic diabetes care in the low- and middle-income countries.

PCV46

ASSESSING THE COST-EFFECTIVENESS OF THE RECOMMENDED ANTIHYPERTENSIVE DRUG CLASSES IN FRANCE USING A LIFETIME MARKOV MODEL

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OBJECTIVES: The management of arterial hypertension in France starts with an evaluation of the patient's cardiovascular risk (function of age, sex, cholesterol level, systolic blood pressure [SBP]) and if necessary, the prescription of a recommended class among angiotensin converting enzyme (ACE)-inhibitors, angiotensin receptor blockers (ARBs), beta-blockers, calcium channel blockers (CCB) and thiazide diuretics. The objective of this study was to assess, for different patient's profiles, the cost-effectiveness of the recommended antihypertensive classes in France. **METHODS:** A cohort of newly treated patients entered a Markov model, using 1-month cycles in the first year, 1-year cycles until 10 years then lifetime extrapolation of costs and benefits. The cohort was characterized by its cardiovascular risk, evaluated via the France-specific Framingham equation. The risk reductions per class versus placebo were taken from the most recent meta-analyses. The probability to switch from monotherapy to bitherapy and tritherapy was depending on the achieved SBP (target 140mmHg) and the class-specific persistence. National health care databases provided persistence and costs data. Discount rate was 4% (costs and life-years). **RESULTS:** In low-risk patients (65-year-old female, SBP 150mmHg), incremental cost-effectiveness vs. placebo ranged from 101€/life-year gained (ACE-inhibitors followed by ACE-inhibitors/thiazides) to 7,722€/life-year gained (beta-blockers followed by beta-blockers/CCB). Savings and extra benefits vs. placebo were obtained in high-risk patients (74-year-old diabetic male, smokers, SBP 180mmHg): up to 0.57 life-years gained with total costs reduced from 17,630€ to 15,403€ (ACE-inhibitors followed by ACE-inhibitors/CCB, least expensive sequence) and 15,953€ (beta-blockers followed by beta-blockers/ARBs, most expensive sequence). The classes ranking was influenced by the persistence and diabetes incidence. The differences were significant vs. placebo but not between the classes, as per probabilistic sensitivity analysis. **CONCLUSIONS:** This lifetime model suggests that all recommended anti-hypertensive drugs in France are very cost-effective versus placebo, and, in higher-risk patients, are even cost-saving with savings comparable among the classes.

PCV47

ECONOMIC ANALYSIS OF TREATMENTS FOR PULMONARY ARTERIAL HYPERTENSION FROM THE BRAZILIAN PUBLIC HEALTH SYSTEM PERSPECTIVE

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OBJECTIVES: Pulmonary arterial hypertension (PAH) is a chronic disease characterized by progressive elevation of pulmonary artery pressure and vascular resistance, leading to right-sided heart failure and premature death. The objective of the present research was to assess the clinical and economic aspects of current oral treatments options for PAH, New York Heart Association (NYHA) functional classes II and III, from the Brazilian Public Health System perspective. **METHODS:** A literature review was conducted on the efficacy and safety of ambrisentan, bosentan and sildenafil in patients diagnosed with PAH, in order to support the assumption of clinical equivalence between the treatments and the development of a cost-minimization analysis. The clinical outcome of interest was improvement in the distance (in meters) walked in 6 minutes (6MWD). For the economic analysis, direct medical costs were considered. Treatment, diagnostic, and procedure costs were obtained from public price/reimbursement databases. Government acquisition prices were used for all drugs. Costs associated with adverse drug reactions and treatment withdrawals were also considered. A one-year time-horizon was used and all costs were presented in 2011 Brazilian currency (1BRL=0.60USD). **RESULTS:** There were no studies directly comparing any of the targeted agents. Thus, an indirect comparison of placebo controlled trials of selected PAH therapies was conducted. Standardized mean differences (SMD) between agents (over placebo) was calculated and the magnitude of effects between the comparators suggested similar clinical efficacy over 12–16 weeks of treatment. Confidence intervals of treatment effects overlapped substantially and supported the clinical assumption. The total annual/monthly costs for the interventions were R$13,169.76/R$1,097.48 for ambrisentan, R$13,226.86/R$1,102.24 for sildenafil, and R$30,227.70/R$2,518.98 for bosentan. **CONCLUSIONS:** Ambrisentan was identified as the alternative with the lowest cost and similar clinical outcomes compared with other selected therapies for treating patients diagnosed with PAH, NYHA functional classes II and III, under the Brazilian public perspective.

PCV48

COST-EFFECTIVENESS OF DABIGATRAN ETEXILATE VERSUS ACETYLSALICILIC ACID FOR STROKE PREVENTION IN PATIENTS WITH NON-VALVULAR ATRIAL FIBRILLATION UNDER THE PRIVATE AND PUBLIC HEALTH CARE SYSTEM IN BRAZIL

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OBJECTIVES: To compare costs and effectiveness of dabigatran etexilate (DAB) versus acetylsalicilic acid (ASA) in patients with Non-Valvular Atrial Fibrillation (NVAF) from a private and public health care system perspective in Brazil. **METHODS:** A Markov model was built to compare DAB versus ASA to derive incremental cost effectiveness ratio (ICER) of DAB based on a mixed treatment comparison and a modified Delphi panel with Brazilian experts (local clinical practice pattern on the management of NVAF patients). The model estimated the number of ischaemic and haemorrhagic strokes, systemic embolisms, intracranial hemorrhages, transient ischaemic attacks, extracranial hemorrhages, minor bleeds and acute myocardial infarctions associated with the respective treatments. To each clinical event costs, disabilities and/or reduction in quality of life, and risk of death were assigned. Only direct medical costs were considered and a discount rate of 5% was assumed, according to Brazilian HTA guidelines. A probabilistic sensitivity analysis was designed to assess uncertainty. **RESULTS:** Under both, the private and public perspective, DAB was associated with additional 0.31 life years gained (LY), additional 0.60 QALYs and demonstrated a lower incidence of intracranial events versus ASP, resulting in a lower event costs (-R$ 1,057.84 and - R$ 3,006.07) and follow up costs. The ICER for DAB versus ASA was R$ 38,511.06/LY and R$ 31,379.80/QALY from the public perspective and DAB was dominant from the private perspective. Sensitivity analyses confirmed the cost-effectiveness of DAB. **CONCLUSIONS:** Findings suggest that DAB can be cost-effective for stroke prevention when used instead of ASA in NVAF patients in Brazil, given that DAB was dominant in the private sector and ICERS were below the threshold of other technologies reimbursed in the public health care sector.

PCV49

COST-EFFECTIVENESS OF CARDIAC REHABILITATION PROGRAM ON PATIENT MEDICATION ADHERENCE AND HOSPITALIZATION IN MEDICAID POPULATION WITH ACUTE MYOCARDIAL INFARCTION

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OBJECTIVES: Although medication advice is a key component in cardiac rehabilitation (CR) program, little is known about its effectiveness on patient medication use behaviors. This project aimed to assess the cost-effectiveness of CR program on patient adherence to cardiac medication and the number of hospitalization avoided. **METHODS:** Using MarketScan® Medicaid database, patients with acute myocardial infarction (AMI) were targeted. By using propensity scores, 471 patients receiving CR programs during 2003- 2007 were 1:1 matched with 471 controls (without CR) on patient demographics, comorbidities and healthcare costs before the CR started. The economic perspective was that of third-payer sector so only direct medical costs were included (costs attributed to CR program and the use of cardiac specific medical services and medications). Main outcomes were patient adherence to cardiac medication measured by Medication Possession Ratio and the number of cardiac related hospitalization. The cardiac medications studied were β1 selective-blockers, angiotensin converting enzyme inhibitors and angiotensin receptor blockers. The outcomes were estimated every 4 months during 1-year follow-up. Cost-effectiveness of CR program was determined by the incremental cost-

effectiveness ratio (ICER). Bootstrapping technique was applied for assessing uncertainty in cost-effectiveness analyses. The robustness of findings was tested in sensitivity analyses. **RESULTS:** Although there were no significant differences in medication adherence and hospitalization outcomes between two groups, patients in CR programs had a gradually improved medication adherence and lower hospitalization over time. Mean annual costs (2003 value) were $3172 and $2092 per patient for CR group and control group, respectively. The ICER was $538 for 1% improvement in medication adherence and $1080 for an additional hospitalization avoided. **CONCLUSIONS:** CR programs offered benefits of improving medication adherence and reducing hospitalization over time although it was costly in the beginning of its provision. Trade-off of increase in costs for the increase in benefits should be considered.

PCV50

COST EFFECTIVENESS ANALYSIS OF AZILSARTAN MEDOXOMIL AND CHLORTHALIDONE FIXED DOSE COMBINATION THERAPY FOR TREATMENT OF HYPERTENSION

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OBJECTIVES: To analyze the cost-effectiveness of treating hypertensive patients with azilsartan medoxomil and chlorthalidone fixed dose combination (AZL-M/CLD FDC) therapy compared with other angiotensin receptor blocker (ARB) and hydrochlorothiazide (HCT) combinations commonly available in the US market. **METHODS:** A Markov Cohort Simulation approach was utilized. Simulated patients start in a hypertensive state and are followed over multiple time periods as they transition between mutually exclusive health states. Cost per Quality Adjusted Life Year (Cost/QALY) and Incremental Cost-effectiveness Ratios (ICERs) are calculated over all possible dose combinations. Cardiovascular disease (CVD) risks were based on the Framingham risk equations. FDCs of HCT and eight ARBs commonly used in the US market (Atacand HCT, Avalide, Benicar HCT, Hyzaar, Diovan HCT, generic Losartan HCT, Micardis HCT and Teveten HCT) were included in the analyses. **RESULTS:** Results suggest that AZL-M/CLD FDC is less expensive and more effective in lowering BP versus all branded ARB/HCT FDC comparators. When considering average costs and the CVD risks based on the Framingham risk equations for all therapies over a five year time horizon, AZL-M/CLD FDC would remain the least expensive and most effective branded ARB/Diuretic FDC therapy up to a 23.5% unit cost increase with the average office SBP reduction of -22.3% and up to 18.1% unit cost increase with the 24-hour ambulatory BP reduction of -17.0%. **CONCLUSIONS:** AZL-M/CLD FDC is predicted to be less expensive and more effective in reducing blood pressure and cardiovascular risk when compared to all branded ARB/HCT FDC comparators during a five year time horizon.

PCV51

DABIGATRAN VERSUS WARFARIN FOR ATRIAL FIBRILLATION IN COLOMBIA

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OBJECTIVES: To estimate the cost-effectiveness of Dabigatran compared to Warfarin in non-complicated atrial fibrillation in Colombia. **METHODS:** We developed a Markov model to represent the health states of atrial fibrillation and its complications;6 health states and 2 transitional states were considered,including disabling and non-disabling stroke, myocardial infarction, pulmonary embolism and death. Major and minor hemorrage were considered transitory in the model. Probabilities were derived from published clinical trials. Resource use was estimated from the Colombian Society of Cardiology guidelines and validated to adjust to usual practice. Direct medical costs were derived from different sources (public and private) and indirect costs (predicted wages lost and transportation costs) were obtained from the most recent National Health Survey. Utilities were obtained from a systematic literature review. Two separate analysis, payer and societal perspective, were performed in a 20-year horizon. Maximum and minimum values of effectiveness and resource use were included in the sensitivity analysis. The results were discounted at 3% annually. **RESULTS:** After 20 years of follow up, discounted direct medical costs accounted for USD$70,500 for Warfarin and $78,840 and $79,860 for 150mg and 110mg of Dabigatran, respectively. When taking into account indirect costs, Warfarin increased their costs by 13% while Dabigatran costs were increased by 9%. Estimated life years for Dabigatran were higher (9.40 and 9.29 for 150mg and 110mg, respectively) as well as the QALYs (8.48, 8.39) than for Warfarin 9.09 LY and 8.12 QALYs. The calculated ICER was $23,760 and $34,690 per additional QALY when taking into account direct costs and even lower when considering indirect costs. **CONCLUSIONS:** In Colombia, the use of Dabigatran for the management of non-complicated atrial fibrilation compared to Warfarin increases years of life and QALYs. Assuming a similar willingnes-to-pay as for other cardiovascular interventions, dabigatran is a cost-effective intervention.

PCV52

URAPIDIL IN TREATMENT OF HYPERTENSION URGENCIES IN THE RUSSIAN FEDERATION: COST-EFFECTIVENESS ANALYSIS

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OBJECTIVES: To assess the cost-effectiveness of urapidil compared with standard treatment of hypertension urgencies **METHODS:** A decision tree was used to simulate the effects of urapitil and standard therapy drugs such as captopril, clonidine, nifedipine, metoprolol, magnesium sulphate, furosemide, enalaprilat. Standard therapy drugs were revealed after observational study of prehospital treatment of hypertension crisis. The efficacy of drugs was obtained from clinical trials, while medical care costs were estimated from standard of treatment of hypertension urgencies developed and published by Ministry of public health. A cost-effectiveness ratio of urapidil was compared with other drugs. At the last stage double phase sensitivity analysis was conducted. **RESULTS:** A CER of urapidil was the lowest (1942.89 RUB/64.73$) in comparison to another drugs (captopril-1966.34 RUB/65.53$; metoprolol-2191.43 RUB/73.03$; enalaprilat - 2443.52 RUB/81.45$; nifedipine-2485.71 RUB/82.83$; furosemide-2505.53 RUB/83.5$; clonidine-2558.12 RUB/85.26$; ; magnesium sulphate -2932.92 RUB/97.73$). Sensitivity analysis demonstrated stability of results, changing cost of hospitalization and cost of urapidil the advantage of urapidil from the position of "cost-effectiveness" was still obviously. **CONCLUSIONS:** Treatment of hypertension urgencies with urapidil is a dominated alternative from the perspective of the health economics.

PCV53

A COST-EFFECTIVENESS ANALYSIS COMPARING DABIGATRAN AND STANDARD TREATMENT FOR STROKE PREVENTION IN ATRIAL FIBRILLATION IN SLOVAKIA

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OBJECTIVES: To compare the costs and effectiveness of dabigatran etexilate with current standard treatment in patients with non-valvular atrial fibrillation (NVAF), from the Slovakian health care system perspective. **METHODS:** A previously published Markov cohort model was adopted to estimate the outcomes of patients with dabigatran (150mg BID, 110mg BID) in its labelled indication during their lifetime for the following health states: ischemic and haemorrhagic stroke, transient ischemic attack, systemic embolism, intracranial and extracranial haemorrhage, acute myocardial infarction, minor bleeds and death. Data on event rates and patient quality of life associated with different health states and patient survival time was based on the RE-LY trial and the literature. The base-case consisted of a cohort of patients with NVAF, $CHADS_2 \geq 1$ and no contraindications to anticoagulation therapy. The modelled consequences of the clinical events were costs, disability and/or reduction in quality of life and death. Data on resource use associated with patient management and different events were estimated using a Slovakian expert panel, while unit prices were collected from the official sources update 2011. One-way sensitivity analyses was used on all relevant variables to test the robustness of the analysis. **RESULTS:** The dabigatran group had more life years and QALYs gained compared to standard treatment (warfarin, aspirin, clopidogrel and no treatment); these gains were primarily driven by a lower incidence of the intracranial events and systemic embolism. A cohort of 5,000 patients treated with dabigatran during their lifetime gained 40,238 QALYs (standard: 38,178 QALYs) with incremental costs of €35.9mill (standard: €37.3 mill). The incremental cost-effectiveness ratio (ICER) of dabigatran versus standard treatment was estimated at €17,437, below the Slovakian acceptable threshold (€18,000 per QALY gained). The sensitivity analysis consistently demonstrated the cost-effectiveness of dabigatran. **CONCLUSIONS:** Dabigatran represents a cost-effective treatment for preventing strokes in patients with NVAF in Slovakia.

PCV54

COST-EFFECTIVENESS ANALYSIS OF DABIGATRAN COMPARED TO WARFARIN FOR STROKE PREVENTION IN ATRIAL FIBRILLATION IN A MEDICARE POPULATION

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OBJECTIVES: Dabigatran was approved in the United States to reduce the risk of stroke and systemic embolism in patients with non-valvular atrial fibrillation (AF). Dabigatran has several potential advantages over the current standard of care (warfarin), including a generally better side effect profile, fewer drug interactions, and no international normalized ratio (INR) monitoring, but it is considerably more expensive. The objective of this analysis was to determine the cost-effectiveness of dabigatran versus warfarin for AF in a Medicare population. **METHODS:** A Markov model was used to simulate outcomes for patients aged 65 with AF and a ($CHADS_2$) congestive heart failure, hypertension, age, diabetes, prior stroke [doubled] score ≥ 1. A 5-year time horizon and a managed care perspective were employed in this analysis. Data comparing the clinical performance of dabigatran and warfarin was derived from the RE-LY trial. Quality-adjusted life-years (QALYs) were used to assess outcomes and utility weights were obtained from systematic reviews. Direct medical costs associated with complications from AF were based on hospitalization costs for diagnostic-related groups and reported in U.S. 2011 dollars. **RESULTS:** Over a 5-year period, the incremental cost-effectiveness ratio (ICER) for dabigatran 150 mg was $26,551 per QALY compared to warfarin. The ICER was most sensitive to the utility associated with the well state for each of the alternatives as well as the price of dabigatran, warfarin, and INR monitoring needed for warfarin therapy. In probabilistic analyses, dabigatran was cost-effective in 91% of simulations at a $50,000/QALY threshold. **CONCLUSIONS:** Prescribing dabigatran increases quality-adjusted life expectancy for AF patients at a cost considered acceptable by American payers.

PCV55

COST-EFFECTIVNESS OF ROSUVASTATIN VERSUS EZETIMIBE/SIMVASTATIN FIXED COMBINATION IN REACHING CHOLESTEROL GOALS FOR MEXICAN PATIENTS

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